

FACULTY EXPERTS

What Can We Expect from the New Administration?

by Richard Olson '62 and Zuoyue Wang

Perhaps not since much of the leadership of the American scientific community opposed Barry Goldwater's bid for the presidency in 1964 had American scientists been so heavily mobilized for a political campaign. But this time they spoke out in favor of candidate Barack Obama, who was supported by 61 Nobel laureates and who claimed to have been in contact with more than 500 scientists for advice on energy and environment alone. Reading the introduction to Obama's September 2008 "Plan for Science and Innovation" one is drawn back to the immensely hopeful prose of Vannevar Bush's 1945 report "Science, the Endless Frontier." Despite its obvious campaign orientation, the plan supplies some important clues as to what the scientific and technological community can expect from the Obama administration. It states that:

Critical national goals can only be met if we renew our commitment to science, technology and innovation. Investments in science and technology foster economic growth; create millions of high-tech, high-wage jobs that allow American workers to lead the global economy; improve the quality of life for all Americans; and strengthen our national security. Clean energy technologies can help end our dependence on foreign oil and combat global warming. Advances in biomedical research can deliver life-saving ways to diagnose, prevent and treat diseases. And the urge to probe more deeply into the unknown and expand the frontiers of human knowledge is at the core of the American experience.... We need to end the Bush administration's war on science where ideology trumps scientific inquiry and politics replaces expert opinion.



Like Bill Clinton before him, Obama has emphasized the linkages between science and technological innovation, and his views seem to be driven as much by the concerns of private sector entrepreneurs as those of academic scientists. Indeed, Obama seeks to appoint a high-profile White House Chief Technology Officer and his transition team in charge of science and technology appointments includes Tom Wheeler, a venture capitalist, and Louisa Terrell, a Yahoo Senior Director. On Dec. 19, 2008, Obama appointed/nominated physicist and global warming activist John Holdren of Harvard as the assistant to the president for science and technology, director of the Office of Science and Technology Policy, and co-chair (along with the biologists Harold Varmus and Eric Lander) of the President's Council of Advisors on Science and Technology (PCAST), which was met with positive reactions from the scientific community. This appointment is a reversal of the practice of the George W. Bush administration, although it's not clear how the CTO and the science advisor will relate to each other. Obama has further promised to seek the advice of independent scientists of integrity through the strengthening of PCAST. The diverse political background of those reportedly in line for science and technology policy positions seems to indicate that Obama will in fact try to reduce the ideological element in science advising and policy-making.

The current economic crisis might make it very difficult for Obama to increase basic science support as rapidly as he would like, but his goal of moving the U.S. back into a world leader in R&D/GDP ratio as well as his promotion of science education in order to stimulate creativity and improve American economic competitiveness are encouraging. Moreover, his intention to use executive orders to reduce the Bush administration restrictions on federally funded stem cell research as well as his open advocacy of evolution and opposition to the teaching of intelligent design in science classes are symbols to the scientific community of a more pro-science administration.

Obama's statements on energy policy illustrate his remarkable ability to be simultaneously idealistic and pragmatic. His intention to invest \$150 billion over the next 10 years in developing and deploying clean energy technologies is likely to be accelerated if he initiates a massive economic stimulus package, offering the possibility of absorbing a huge workforce while simultaneously reducing dependence on oil and mitigating global warming. His most recent nomination of Steven Chu, Nobel laureate (physics, 1997) and director of the Lawrence Berkeley Laboratory, brings into the administration not only a well-respected scientist but also a passionate advocate for an energy policy that would mitigate global warming. At the same time, Obama is aware that in the short term, it is unlikely that the U.S. can meet its energy demands—even with energy saving technologies in place—without using oil, coal and nuclear energy production. So in spite of the urging of his more radical green advocates, Obama proposes that we continue to promote cleaner coal-fired plants, that we develop safer and cleaner nuclear technologies, and that we promote oil drilling in land already leased by oil companies. Moreover he has been a strong supporter of conservative-flavored market incentives to promote the development of clean energy, urging a cap and trade system that he

hopes will reduce greenhouse gas emissions by 80 percent below 1990 levels by 2050.

On health care, the Obama campaign wisely emphasized the urgent need for health insurance reform, but a key part of the strategy to make its proposal work is the expansion of the use of information technology in the field. Furthermore, its “Plan for Science and Innovation” seems to indicate that a major push will be made in the area of biomedical research. In this connection it is notable that Harold Varmus, Nobel laureate and former director of the National Institutes of Health, played a leading role in mobilizing the scientific community’s support for the Obama candidacy during the campaign.

National security is another area where the Obama administration is likely to see science and technology playing a prominent role. Defeating al Qaeda and preventing nuclear and bio terrorism are listed as the top priorities in homeland security, which will certainly involve both cutting-edge scientific research and deployment of new technologies, especially information technology. Yet, as a sign of a break with the practice of the Bush administration, Obama does not seem to rely on American technological-military power as a sole solution in the war on terror but instead emphasizes diplomacy and education. President Obama will undoubtedly face heavy pressure from the military-industrial complex to maintain its post-9/11 buildup and in order to counter-balance its influence he will likely find, as did President Eisenhower whom he admires, the independent advice of his own science advisers invaluable.

In sum, the Obama administration will face challenges in various areas of public policy unprecedented in modern American history and to meet them it will need to utilize science and technology creatively and judiciously. Judging from the way he ran his presidential campaign and his policy pronouncements so far, we feel cautiously optimistic that an improved science-government relationship will take place during the Obama presidency and will help it to formulate a set of science and technology policies that will, in turn, help solve the mounting problems confronting the United States and the world in economy, energy, environment, health and security. [HMC](#)



Richard Olson '62 is professor of history and Willard W. Keith, Jr. Fellow in the Humanities at HMC and author of “Science and Scientism in Nineteenth Century Europe.”



Zuoyue Wang is the HMC Hixon-Riggs visiting professor in science, technology, and society for 2008–2009, on leave from Cal Poly Pomona, and author of “In Sputnik’s Shadow: The President’s Science Advisory Committee and Cold War America.”

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Director of College Relations and **Senior Editor** [Stephanie L. Graham](#) **College Photographer** [Kevin Mapp](#) **Graphic Design** [Janice Gilson](#)

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